

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

20553 TitraVer® (EDTA) Standard Solution 0,010M (0,020N)

Revision date: 06.03.2018

Product code: 20553

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

20553 TitraVer® (EDTA) Standard Solution 0,010M (0,020N)

CAS No: 6381-92-6

EC No: 205-358-3

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH

Street: Willstätterstr. 11

Place: D-40549 Düsseldorf

Telephone: +49 (0)211 5288-383

e-mail: SDS@hach.com

Internet: www.de.hach.com

Responsible Department: HACH LANGE Ltd.

5, Pacific Way

Salford Manchester M50 1DL - United Kingdom

Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324

e-Mail: info-uk@hach.com

HACH LANGE Ltd.

Unit 1, Chestnut Road Western Industrial Estate

IRL-Dublin 12

Tel. +353 (0)1 4602522

e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements**Additional advice on labelling**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
7732-18-5	Water			> 99 %
	231-791-2			
6381-92-6	Ethylenedinitrilotetraacetic acid disodium salt dihydrate			< 1,0 %
	205-358-3			
	Eye Irrit. 2; H319			
	other components			0,01 - 0,1 %

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Take off all contaminated clothing immediately.

After inhalation

Move to fresh air.

If symptoms persist, call a physician.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.

If skin irritation persists, call a physician.

After contact with eyes

Wash off immediately with plenty of water for at least 15 minutes.

If eye irritation persists, consult a specialist.

After ingestion

Clean mouth with water and drink afterwards plenty of water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes.
Wash hands after handling.
General industrial hygiene practice.

Advice on protection against fire and explosion

None known.

Further information on handling

Follow the instructions for use issued by the producer.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place.

Hints on joint storage

None known.

Further information on storage conditions

None known.

7.3. Specific end use(s)

Standard solution

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

None known.

Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

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Eye/face protection

Safety glasses with side-shields

Hand protection

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Use with adequate ventilation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	odourless
pH-Value (at 20 °C):	5,0 +/- 0,6

Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	100 °C
Sublimation point:	no data available
Softening point:	no data available
Pour point:	not applicable
:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

not applicable

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	no data available

Auto-ignition temperature

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	no data available
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Oxidizing properties

not applicable

Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	0,988 g/cm ³
Bulk density:	not applicable
Water solubility: (at 20 °C)	soluble

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Solubility in other solvents

no data available

Partition coefficient:

no data available

Viscosity / dynamic:

no data available

Viscosity / kinematic:

no data available

Flow time:

no data available

Vapour density:

no data available

Evaporation rate:

no data available

Solvent separation test:

no data available

Solvent content:

no data available

9.2. Other information

Solid content:

no data available

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

Further information

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

None known.

Acute toxicity

None known.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
6381-92-6	Ethylenedinitrilotetraacetic acid disodium salt dihydrate				
	oral	LD50 mg/kg	>2000	rat	

Irritation and corrosivity

None known.

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Sensitising effects

None known.

Carcinogenic/mutagenic/toxic effects for reproduction

None known.

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

None known.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

None known.

Additional information on tests

None known.

Practical experience

Observations relevant to classification

None known.

Other observations

None known.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
6381-92-6	Ethylenedinitilotetraacetic acid disodium salt dihydrate					
	Acute fish toxicity	LC50	320 mg/l	96 h	Poecilia reticulata (guppy)	IUCLID
	Acute algae toxicity	ErC50	10-100 mg/l	72 h		

12.2. Persistence and degradability

None known.

12.3. Bioaccumulative potential

None known.

12.4. Mobility in soil

None known.

12.5. Results of PBT and vPvB assessment

None known.

12.6. Other adverse effects

None known.

Further information

None known.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

In accordance with local and national regulations.

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)

Other applicable information (land transport)

Not subject to transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

Other applicable information

no data available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

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15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 06.03.2018

Safety datasheet sections which have been updated: 4, 5, 8

Revision: 18.08.2014

Safety datasheet sections which have been updated: 1 - 16

Relevant H and EUH statements (number and full text)

H319 Causes serious eye irritation.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

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Product code: 42432

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

424-32 Hardness 1 Buffer

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

Harmful to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

2-amino-2-methylpropanol

Signal word: Warning**Pictograms:**

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Hazard statements

- H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

- P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P312 Call a POISON CENTER/doctor if you feel unwell.
 P501 Dispose of contents/container in accordance with local regulation.

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
124-68-5	2-amino-2-methylpropanol	50-60 %
	204-709-8	603-070-00-6
	Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3; H315 H319 H412	
7732-18-5	Water	35-45 %
	231-791-2	
64-19-7	acetic acid ... %	1-10 %
	200-580-7	607-002-00-6
	Flam. Liq. 3, Skin Corr. 1A; H226 H314	
14402-88-1	Diaminoethane tetra-acetic acid Magnesium-disodium salt	<1 %
	238-372-3	

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

- Take off contaminated clothing and shoes immediately.
 Show this safety data sheet to the doctor in attendance.

After inhalation

- Move to fresh air.
 If symptoms persist, call a physician.

After contact with skin

- Wash off immediately with plenty of water for at least 15 minutes.

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Take off all contaminated clothing immediately.
If skin irritation persists, call a physician.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After ingestion

Clean mouth with water and drink afterwards plenty of water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

irritant effects

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

Unsuitable extinguishing media

No Limit

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the event of fire, wear self-contained breathing apparatus.

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

Do not breathe vapours, mist or gas.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas.

Avoid contact with skin and eyes.

Do not breathe vapours/dust.

Advice on protection against fire and explosion

None known.

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See also section 5

Further information on handling

Observe label precautions.

Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep in a dry, cool place.

Hints on joint storage

Do not store together with Oxidizing agents

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
64-19-7	Acetic acid	10	25		TWA (8 h)	EU
		15	37		STEL (15 min)	EU

Additional advice on limit values

None known.

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and after work.

General industrial hygiene practice.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

Environmental exposure controls

Should not be released into the environment.

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SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	yellow
Odour:	vinegar-like
pH-Value (at 20 °C):	10 (2 % solution)

Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	104,5 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	no data available
:	no data available
Flash point:	>97,2 °C

Flammability

Solid:	no data available
Gas:	no data available

Explosive properties

no data available

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	no data available

Auto-ignition temperature

Solid:	no data available
Gas:	no data available

Decomposition temperature: no data available

Oxidizing properties

no data available

Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	1,033 g/cm ³
Bulk density:	not applicable
Water solubility: (at 20 °C)	completely soluble

Solubility in other solvents

no data available

Partition coefficient:	no data available
Viscosity / dynamic:	no data available
Viscosity / kinematic:	no data available
Flow time:	no data available
Vapour density:	no data available
Evaporation rate: (at 20 °C)	0,36
Solvent separation test:	no data available

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Solvent content: no data available

9.2. Other information

Solid content: no data available

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Hazard: Oxidizing agents

10.2. Chemical stability

The product is chemically stable.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
124-68-5	2-amino-2-methylpropanol					
	oral	LD50 mg/kg 2900	Rat	IUCLID		
	dermal	LD50 mg/kg > 2000	Rabbit	IUCLID		
64-19-7	acetic acid ... %					
	oral	LD50 mg/kg 3310	Rat	GESTIS		

Irritation and corrosivity

Irritating to eyes and skin.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No aspiration toxicity classification

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Specific effects in experiment on an animal

No data is available on the product itself.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
124-68-5	2-amino-2-methylpropanol					
	Acute fish toxicity	LC50	190 mg/l	96 h	Lepomis macrochirus	IUCLID
	Acute algae toxicity	ErC50	520 mg/l	72 h	Desmodesmus subspicatus	
64-19-7	acetic acid ... %					
	Acute crustacea toxicity	EC50	65 mg/l	48 h	Daphnia magna	Janssen et al

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

No data is available on the product itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
124-68-5	2-amino-2-methylpropanol	-0,74
64-19-7	acetic acid ... %	-0,17

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

In accordance with local and national regulations.

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

Dispose of as unused product.

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SECTION 14: Transport information**Land transport (ADR/RID)****Other applicable information (land transport)**

Not subject to transport regulations.

Inland waterways transport (ADN)**Other applicable information (inland waterways transport)**

Not tested

Marine transport (IMDG)**Other applicable information (marine transport)**

Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)**Other applicable information (air transport)**

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Changes**

Revision: 23.04.2018

Safety datasheet sections which have been updated: 8, 11, 16

Revision: 23.04.2015

Safety datasheet sections which have been updated: 2

Revision: 25.02.2015

Safety datasheet sections which have been updated: 2, 10

Revision: 06.11.2013

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.

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H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 4

Respiratory or skin sensitisation: Skin Sens. 1

Carcinogenicity: Carc. 2

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:

Harmful if swallowed.

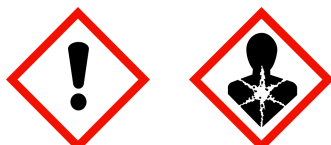
May cause an allergic skin reaction.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

hydroxylammonium chloride; hydroxylamine hydrochloride

Signal word: Warning**Pictograms:**

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Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	GHS Classification	
5470-11-1	hydroxylammonium chloride; hydroxylamine hydrochloride	5-10 %
	226-798-2	612-123-00-2
	Met. Corr. 1, Carc. 2, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT RE 2, Aquatic Acute 1; H290 H351 H312 H302 H315 H319 H317 H373 H400	
7631-86-9	Silica gel	1-5 %
	231-545-4	
3147-14-6	Calmagite	< 1 %
	221-563-0	
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335	

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off all contaminated clothing immediately.

After inhalation

Move to fresh air. Consult a physician for severe cases.

After contact with skin

Wash off with soap and water. If skin irritation persists, call a physician.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

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After ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Show this safety data sheet to the doctor in attendance.

Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

sensitising effects, Vomiting Spasm, Diarrhoea, Circulatory collapse

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
The product itself does not burn.

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

Sodium oxides, Hydrogen chloride gas, nitrogen oxides (NO_x)

5.3. Advice for firefighters

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

Do not breathe vapours, mist or gas. Ensure adequate ventilation.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Use only in well-ventilated areas. Do not breathe vapours/dust.

Advice on protection against fire and explosion

See also section 5

Further information on handling

Observe label precautions.

Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities

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Requirements for storage rooms and vessels

Store at room temperature in the original container.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Protective and hygiene measures

Wash hands before breaks and after work.

General industrial hygiene practice.

Ensure that eye flushing systems and safety showers are located close to the working place.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove

material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Skin protection

Avoid contact with skin and eyes.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed.

Recommended Filter type: ABEK-filter

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: powder

Colour: red

Odour: none

pH-Value (at 20 °C): 3,3 (5 % solution)

Changes in the physical state

Melting point: 151 °C

Initial boiling point and boiling range: not applicable

Sublimation point: not applicable

Softening point: not applicable

Pour point: not applicable

Flash point: not applicable

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Flammability

Solid: no data available

Gas: no data available

Explosive properties

not applicable

Lower explosion limits: no data available

Upper explosion limits: no data available

Ignition temperature: no data available

Auto-ignition temperature

Solid: no data available

Gas: no data available

Decomposition temperature: no data available

Oxidizing properties

not applicable

Vapour pressure: no data available

Density (at 20 °C): 2,12 g/cm³

Bulk density: no data available

Water solubility:
(at 20 °C) soluble**Solubility in other solvents**

no data available

Partition coefficient: not applicable

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: not applicable

Evaporation rate: not applicable

Solvent separation test: not applicable

Solvent content: not applicable

9.2. Other information

Solid content: no data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents

10.4. Conditions to avoid

Keep away from heat.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition productsSodium oxides, Hydrogen chloride gas, nitrogen oxides (NO_x)

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SECTION 11: Toxicological information
11.1. Information on toxicological effects
Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

Harmful if swallowed.

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
5470-11-1	hydroxylammonium chloride; hydroxylamine hydrochloride					
	oral	LD50 mg/kg	141	rat		
	dermal	ATE mg/kg	1100			

Irritation and corrosivity

No known effect.

Sensitising effects

May cause sensitisation by skin contact. (hydroxylammonium chloride; hydroxylamine hydrochloride)

Carcinogenic/mutagenic/toxic effects for reproduction

H351 - Suspected of causing cancer. (hydroxylammonium chloride; hydroxylamine hydrochloride)

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

H373 - May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

No data is available on the product itself.

Additional information on tests

None known.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information
12.1. Toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
5470-11-1	hydroxylammonium chloride; hydroxylamine hydrochloride					
	Acute fish toxicity	LC50 mg/l	1-10	96 h Leuciscus idus (Golden orfe)		

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

No data is available on the product itself.

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12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

In accordance with local and national regulations.

SECTION 14: Transport information

Land transport (ADR/RID)

Other applicable information (land transport)

Not subject to transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not subject to transport regulations.

Air transport (ICAO-TI/IATA-DGR)

Other applicable information (air transport)

Not subject to transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

2 - obviously hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Revision: 28.08.2019

Safety datasheet sections which have been updated: 15, 16

Revision: 23.02.2017

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Safety datasheet sections which have been updated: 2, 4, 11, 14

Revision: 6.02.2017

Safety datasheet sections which have been updated: 2, 11

Revision: 20.04.2015

Safety datasheet sections which have been updated: 2

Safety datasheet sections which have been updated: 2, 3, 15

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Skin Sens. 1; H317	Calculation method
Carc. 2; H351	Calculation method
STOT RE 2; H373	Calculation method

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)